

Bill Fogal's Transistor Module, pt. 3

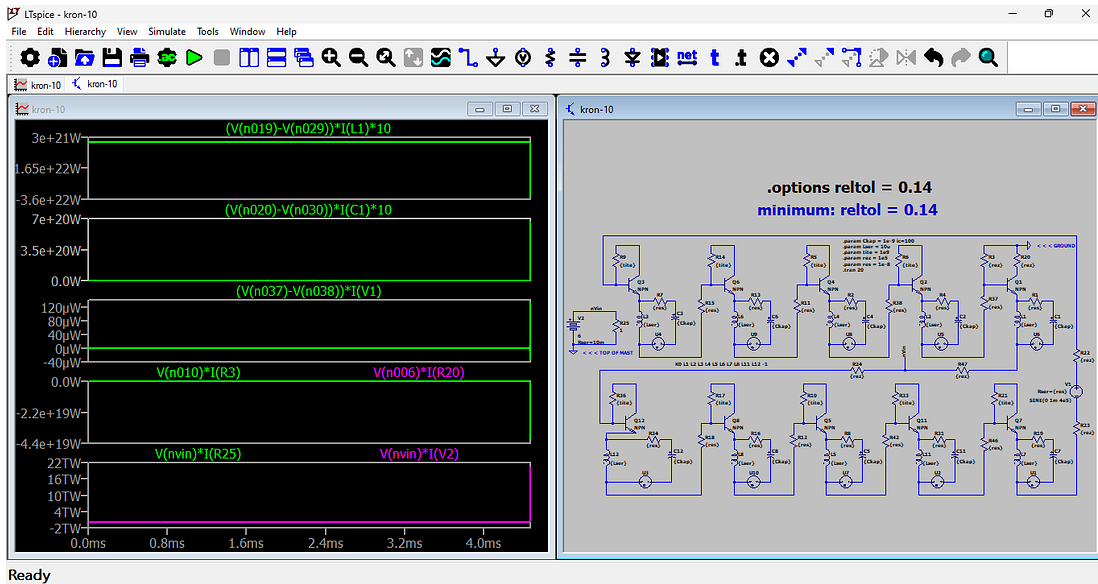
A slight modification to yesterday's posted circuit simulation.



VINYASI

MAY 05, 2026

It's more clear to me, now, that the Earth-grounded mast — represented by the 6V battery on the far left of the schematic, is not supplying energy through itself from its immediate ground. Most of the energy is being generated from the circuit, especially its coils since they are exhibiting negative wattage. It might have been doing something differently, yesterday, but that was probably due to my having forgotten to add a little internal series resistance to the battery. That changes the internal dynamics of energy within the context of this circuit. Furthermore, this battery is not supplying any energy. Instead, it is being overly charged which will result in its explosion if a battery were to be placed here in real life. But if a mast is here, then this represents the top of the mast while the other ground in the upper right corner of this circuit represents the grounded end of this circuit. That's my guess, anyway ...



[Download this circuit here.](#)

Netlist > > >

* D:\Documents\Sims\LTSpice\2026\05 - May\02\kron-10.asc

* Generated by LTSpice 24.1.9 for Windows.

C1 N020 N030 {Ckap}

L1 N019 N029 {Lser} Rser={Lser}

R1 N020 N019 {res}

Q1 N006 N010 N019 0 NPN

R3 0 N010 {rez}

C2 N018 N028 {Ckap}

L2 N017 N027 {Lser} Rser={Lser}

R4 N018 N017 {res}

Q2 N005 N009 N017 0 NPN

R6 N005 N009 {tite}

C3 N012 N022 {Ckap}

L3 N011 N021 {Lser} Rser={Lser}

R7 N012 N011 {res}

Q3 N002 N001 N011 0 NPN

R9 N002 N001 {tite}

C7 N052 N062 {Ckap}

L7 N051 N061 {Lser} Rser={Lser}

R19 N052 N051 {res}

Q7 N036 N042 N051 0 NPN

R21 N036 N042 {tite}

C11 N050 N060 {Ckap}

L11 N049 N059 {Lser} Rser={Lser}

R31 N050 N049 {res}

Q11 N035 N041 N049 0 NPN

R33 N035 N041 {tite}

C12 N044 N054 {Ckap}

L12 N043 N053 {Lser} Rser={Lser}

R34 N044 N043 {res}

Q12 N032 N031 N043 0 NPN

R36 N032 N031 {tite}

V1 N037 N038 SINE(0 1m 4e5) Rser={res}

R37 N027 N010 {res}

R38 N025 N009 {res}

R42 N057 N041 {res}

R46 N059 N042 {res}

R47 N029 nVin {rez}

X§U1 N062 N061 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

X§U2 N060 N059 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

X§U3 N054 N053 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

X§U4 N022 N021 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

X§U5 N028 N027 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

X§U6 N030 N029 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

C4 N016 N026 {Ckap}

L4 N015 N025 {Lser} Rser={Lser}

R2 N016 N015 {res}

Q4 N004 N008 N015 0 NPN

R5 N004 N008 {tite}

C5 N048 N058 {Ckap}

L5 N047 N057 {Lser} Rser={Lser}

R8 N048 N047 {res}

Q5 N034 N040 N047 0 NPN

R10 N034 N040 {tite}

R11 N023 N008 {res}

R12 N055 N040 {res}

X§U7 N058 N057 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

X§U8 N026 N025 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

C6 N014 N024 {Ckap}

L6 N013 N023 {Lser} Rser={Lser}

R13 N014 N013 {res}

Q6 N003 N007 N013 0 NPN

R14 N003 N007 {tite}

R15 N021 N007 {res}

X\$U9 N024 N023 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

C8 N046 N056 {Ckap}

L8 N045 N055 {Lser} Rser={Lser}

R16 N046 N045 {res}

Q8 N033 N039 N045 0 NPN

R17 N033 N039 {tite}

R18 N053 N039 {res}

X\$U10 N056 N055 neonbulb Vstrike=100 Vhold=50 Zon=2K Ihold=200u
Tau=100u

R20 0 N006 {rez}

R22 N001 N037 {rez}

R23 N038 N061 {rez}

R24 nVin N031 {rez}

V2 nVin 0 6 Rser=10m

R25 nVin 0 1

.model NPN NPN

.model PNP PNP

.lib C:\Users\vinya\AppData\Local\LTspice\lib\cmp\standard.bjt

```
.param Ckap = 1e-9 ic=100
```

```
.param Lser = 10u
```

```
.param tite = 1e9
```

```
.param rez = 1e5
```

```
.param res = 1e-8
```

```
.tran 20
```

```
K0 L1 L2 L3 L4 L5 L6 L7 L8 L11 L12 -1
```

```
.options reitot = 0.14
```

```
* minimum: reitot = 0.14
```

```
* < < < GROUND
```

```
* < < < TOP OF MAST
```

```
.lib neonbulb.sub
```

```
.backanno
```

```
.end
```

```
Log file > > >
```

```
LTspice 24.1.9 for Windows
```

```
Circuit: D:\Documents\Sims\LTSpice\2026\05 - May\02\kron-10.net
```

```
Start Time: Tue May 5 11:40:54 2026
```

```
Options: reitot = 0.14
```

solver = Normal

Maximum thread count: 4

tnom = 27

temp = 27

method = trap

reltol = 0.14

Early termination of direct N-R iteration.

Direct Newton iteration failed to find .op point. (Use ".option noopiter"
to skip.)

Starting Gmin stepping

Gmin = 10

Gmin = 1.07374

Gmin = 0.115292

Gmin = 0.0123794

Gmin = 0.00132923

Gmin = 0.000142725

Gmin = 1.5325e-05

Gmin = 1.6455e-06

Gmin = 1.76685e-07

Gmin = 1.89714e-08

Gmin = 2.03704e-09

Gmin = 2.18725e-10

Gmin = 2.34854e-11

Gmin = 2.52173e-12

Gmin = 2.70769e-13

Gmin = 0

Gmin stepping succeeded in finding the operating point.

Changing Tseed to 1e-08

Warning: Simulation tolerance relaxed to achieve convergence from 4.4723414692823147e-03 to 4.4723414692823251e-03 seconds.

[excessive warnings have been removed]

Warning: Simulation tolerance relaxed to achieve convergence from 4.4725173288483692e-03 to 4.4725173288483796e-03 seconds.

Simulation stopped by user.

Total elapsed time: 163.873 seconds.

Files loaded:

D:\Documents\Sims\LTSpice\2026\05 - May\02\kron-10.net

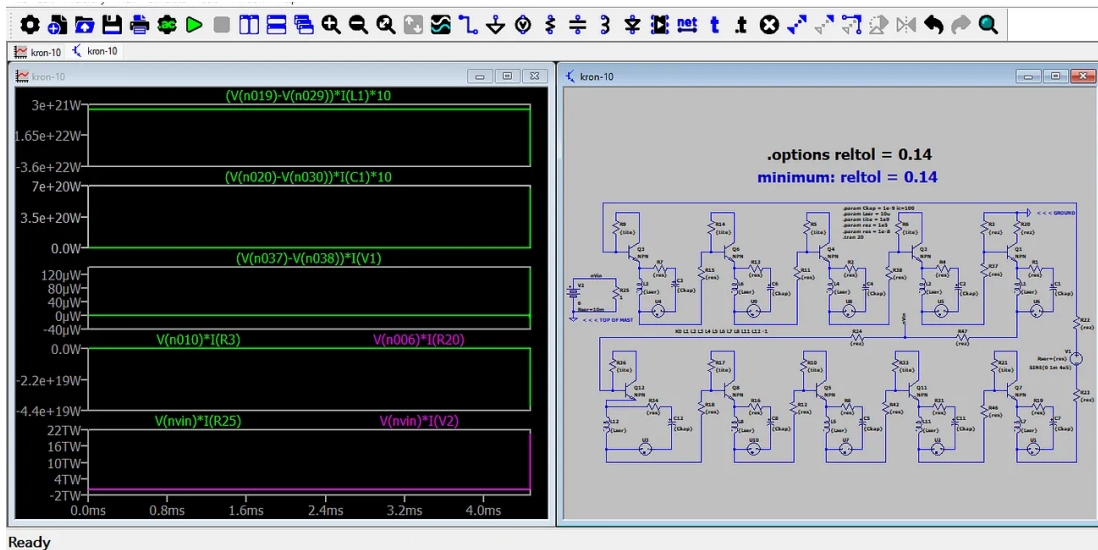
C:\Users\vinya\AppData\Local\LTspice\lib\cmp\standard.bjt

C:\Users\vinya\AppData\Local\LTspice\lib\sub\neonbulb.sub

Continued here:

Analyzing my Hypothetical Replication of Bill Fogal's Transistor Module.

VINYASI · 3:40 AM



Ready

Analyzing:

[Read full story](#)